

AMENDMENTS TO THE CLAIMS

1. – 2. (Canceled)

3. (Currently amended) A dielectric resonator comprising:

a dielectric ceramic; and

input/output terminals electromagnetically connected with the dielectric ceramic, the dielectric ceramic comprising ~~the~~ a high-frequency dielectric ceramic composition ~~according to Claim 1~~ represented by a general formula:



wherein molar ratios of x, y and z are within an area in a ternary diagram defined by a first point A (where $x=0.30$, $y=0.22$, and $z=0.48$), a second point B (where $x=0.60$, $y=0.12$, and $z=0.28$), a third point C (where $x=0.60$, $y=0.14$, and $z=0.26$), and a fourth point D (where $x=0.30$, $y=0.25$, and $z=0.45$), and is

the molar ratios of x, y and z are not on a line between points A and D,

$$\text{x+y+z=1.00},$$

$$0.5 \leq \alpha \leq 1.0,$$

$$0 \leq \beta \leq 1.0,$$

$$0.98 \leq v \leq 1.03, \text{ and}$$

w is a positive value to keep the composition electroneutral.

4. (Currently amended) A dielectric resonator comprising:
a dielectric ceramic; and
input/output terminals electromagnetically connected with the dielectric ceramic, the dielectric ceramic comprising ~~the~~ high-frequency dielectric ceramic composition ~~according to Claim 2~~ represented by a general formula:



wherein molar ratios of x, y and z are within an area in a ternary diagram defined by a first point A (where x=0.30, y=0.22, and z=0.48), a second point B (where x=0.60, y=0.12, and z=0.28), a third point C (where x=0.60, y=0.14, and z=0.26), and a fourth point D (where x=0.30, y=0.25, and z=0.45), and is

the molar ratios of x, y and z are not on a line between points A and D,

$$\text{x+y+z=1.00,}$$

$$0.5 \leq \alpha \leq 1.0,$$

$$0 \leq \beta \leq 1.0,$$

$$1.00 < v \leq 1.02, \text{ and}$$

w is a positive value to keep the composition electroneutral.

5. (Original) A dielectric filter comprising:
the dielectric resonator according to Claim 3; and
external junctions that are coupled to the input/output terminals of the dielectric resonator.

6. (Original) A dielectric filter comprising:
the dielectric resonator according to Claim 4; and
external junctions that are coupled to the input/output terminals of the dielectric resonator.

7. (Original) A dielectric duplexer comprising:
at least two dielectric filters;
input/output connectors that are coupled to each of the at least two dielectric filters; and
an antenna connector that is shared by the at least two dielectric filters,
wherein at least one of the at least two dielectric filters is the dielectric filter according to Claim 5.

8. (Original) A dielectric duplexer comprising:
at least two dielectric filters;
input/output connectors that are coupled to each of the at least two dielectric filters; and
an antenna connector that is shared by the at least two dielectric filters,
wherein at least one of the at least two dielectric filters is the dielectric filter according to Claim 6.

9. (Original) A communication system comprising:
the dielectric duplexer according to Claim 7;
a transmitting circuit that is coupled to at least one of the input/output connectors of the dielectric duplexer;

a receiving circuit that is coupled to at least one of the input/output connectors other than the input/output connector that is coupled to the transmitting circuit; and
an antenna that is coupled to the antenna connector of the dielectric duplexer.

10. (Original) A communication system comprising:
the dielectric duplexer according to Claim 8;
a transmitting circuit that is coupled to at least one of the input/output connectors of the dielectric duplexer;
a receiving circuit that is coupled to at least one of the input/output connectors other than the input/output connector that is coupled to the transmitting circuit; and
an antenna that is coupled to the antenna connector of the dielectric duplexer.